SECTION 210
EQUIPMENT USE

210.01 DESCRIPTION. This describes the equipment to be used for the Contract work.

210.02 RESERVED.

210.03 CONSTRUCTION REQUIREMENTS.

210.03.1 General Requirements. Provide equipment in good mechanical condition having sufficient power to perform the work. Repair or replace equipment not meeting these requirements.

210.03.2 Motor Graders. Use self propelled motor graders either tandem or all-wheel drive equipped with pneumatic tires. Equip the graders with a moldboard at least 12 feet (3.7 m) long with a cutting edge, a scarifier with nine or more teeth having minimum dimensions of 3 x 1 x 16 in.(75 mm X 25 mm X 405 mm), and power-operated controls.

The motor grader manufacturer's power rating must be at least 100 horsepower (75 kW).

210.03.3 Dozers. Use dozers of any standard type attached to a crawler tractor of at least 75 horsepower (56 kW) having power-operated controls.

Furnish dozers a minimum 90-inches wide (2.3 m). The dozer and tractor is considered a single unit.

210.03.4 Rollers.

A. General. Provide rollers and compaction equipment of standard manufacture bearing the manufacturers identification label. Roller weight is the manufacturer's rating.

Use self-propelled rollers capable of reversing direction without backlash.

Keep rollers in good mechanical condition with positive, accurate steering control.

Use adequately powered trucks or tractors for pull-type rollers.

Other than traction units, operate rollers separate and distinct from other equipment.

Equip all rollers with self-cleaning devices that prevent material from adhering to the wheels or tamping surfaces.

B. Smooth-Wheeled Rollers. Use smooth-wheeled, self propelled rollers as follows:

1. Tandem-type weighing up to 10 tons (9 mt).
2. Three-wheeled type weighing a minimum 10 tons (9 mt).
3. Towed steel-drum rollers weighing a minimum 4 tons (3.6 mt).

C. Tamping Rollers. Use tamping rollers with grids, drums, or shells surrounded by metal studs, pads, or similar elements that compress small areas of material.

D. **Pneumatic-Tired Rollers.** Use Pneumatic-tired rollers meeting the following:
   1. Two-axle type, straight or oscillating;
   2. Rigid framed providing a platform or body for ballast loading;
   3. Having a effective rolling width of at least 4 feet (1.2 m);
   4. Having a minimum working weight capacity of 250 pounds (113.5 kg) per inch width of tire tread;
   5. Smooth tires (no tread) equal in size and diameter;
   6. Rear axle tires spaced to overlap the tread gap of the preceding two tires;
   7. Uniform tire pressure not varying from each other by more than 5 pounds per square inch (34.5 kPa);
   8. Self-propelled or tractor or truck drawn (tractive power).

   Operate the rollers, while turning, to prevent tearing or loosening of the material being rolled or the adjacent material.

   Do not use wobble-wheeled pneumatic-tired rollers for bituminous surfacing work.

E. **Vibratory Rollers.** Use vibratory rollers capable of obtaining the required compaction.

210.03.5 Watering Equipment. Furnish and operate pneumatic-tired water equipment having spray bars capable of uniformly distributing water over the surface area. The control valves must be positive closing to prevent leakage.

210.03.6 Test Trailers Transport and Setup. Transport to the project site or provide electrical power service or both for State-owned test trailers. Supply electrical power 24 hours a day, 7 days a week. Transport, set up, and make the trailer operational before starting plant mix paving.

Paving operations will be suspended if power level requirements are not maintained.

Obtain a M.R.C. licensed carrier to transport the 12 foot (3.6 m) by 32 foot (9.8 m) test trailer from a designated location to the project site and return it to a designated location as directed. Transporting includes blocking, leveling, re-blocking, re-leveling and unblocking the trailer. Contact the Engineer for details concerning the transport of the trailer at least 30 days before plant mix operations.

Purchase a minimum $60,000.00 insurance for the trailer and its contents. Provide written proof of insurance to the Engineer before the trailer is moved. Verify that the Department has prepared the trailer and contents for transport.

Repair or replace all contents and trailer damage occurring in transport at Contractor expense. Do not move the trailer without the Engineer's permission.

Furnish and install a continuous 200 ampere, 220 to 230 volt, single phase, 60 hertz power supply to the trailer. Have the source connected by a Montana licensed electrician using a 4 wire conductor.

210.03.7 Test Trailer Power and Blocking. Provide a level parking area, the required blocking, and electrical power service for the test trailer. Locate and construct the parking area a minimum 200 feet (61 m) from the plant mix dryer

drum, mixing plant, and storage silo unless otherwise directed, to accommodate the 12 foot X 32 foot (3.6 m X 9.8 m) trailer. Park, block, and level the trailer as directed.

Do not begin plant mix paving operations until the trailer is operational. Suspend paving work during power interruptions or periods of insufficient power to the trailer.

Furnish, install, and connect a commercial or generated power meeting Subsection 210.03.06 requirements.

Unblock the trailer and disconnect the power as directed. The Department will prepare the trailer for transport.

210.04 METHOD OF MEASUREMENT.

210.04.1 Equipment Use. Equipment use, when specified as a bid item, is measured by the hour for the hours performing the work and includes furnishing the equipment, including operator, servicing, repairs. Time in moving equipment from point to point on the project and for repair and servicing is not measured.

Equipment used in the work but not specified as a bid item is incidental to the work.

210.04.2 Test Trailer, Transport, and Setup. Test trailer, transport and setup is measured by the mile (kilometer) for the actual miles (kilometers) moved. It includes insurance, transporting, blocking, unblocking, leveling, furnishing and installing electrical power and associated wiring, and all other necessary resources to complete the item of work. The mileage shown in the contract is an estimate only and may be adjusted by the Engineer.

210.04.3 Test Trailer, Power, and Blocking. Test trailer, power and blocking includes constructing a level parking area, blocking, leveling trailer, furnish power and wiring, unblocking, and removing power and wiring. This is a lump sum item.

Maintenance re-blocking and re-leveling is incidental to the work and not measured or paid for separately.

Additional blocking and leveling of the trailer for trailer moves directed by the Engineer are measured and paid for.

210.05 BASIS OF PAYMENT. Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Motor Grader	Hour
Dozer	Hour
Test Trailer Transport/Setup	Mile (Kilometer)
Test Trailer Power/Blocking	Lump Sum

Fifty percent of the lump sum price is paid when the trailer is blocked, leveled, and power is supplied.

Fifty percent of the lump sum price is paid when the trailer is unblocked and the power is disconnected.

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the Contract.